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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,796	06/02/2006	Ho Yan Stephen Yip	1007198-000675	8649
21839 7590 08/13/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER MILLIKIN, ANDREW R	
			ART UNIT 2837	PAPER NUMBER
			MAIL DATE 08/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/581,796	Applicant(s) YIP, HO YAN STEPHEN	
	Examiner Andrew Millikin	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>070506</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because they are unclear and have illegible text (see Figs. 1, 7, 8, 9, 10, 11, & 12). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 & 3-5, 7-9, 11-13, & 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kleczkowski ("Group Additive Synthesis," as provided by Applicant).

Claim 1: Kleczkowski teaches a method of synthesizing the sound of a musical instrument, including the steps of: obtaining samples of the sound of said instrument (page 2, col. 1, paragraph 2; page 6, "The Stimuli"), analyzing the harmonics of said samples of said sound (page 2, "General Conception"; page 2, col. 2, last paragraph), selecting harmonics of said sampled sound according to prescribed characteristics of the envelop of said harmonics for synthesizing harmonics of the synthesized sound (page 2, col. 2 & page 3, col. 1), grouping harmonics of said sampled sound of similar envelope characteristics and obtaining temporal characteristics of the group of harmonics from constituting harmonics of the same group (page 3, cols. 1-2), synthesizing a plurality of synthesized harmonics of the synthesized sound, wherein at least some of the synthesized harmonics are synthesized from one of the envelopes of the harmonics of a group ("Verification of the Technique") and conditioned by the temporal characteristics of the constituting harmonics of that group (page 3, equation 3).

Claim 3: Kleczkowski teaches the method of claim 1, wherein a plurality of selected harmonics of said sampled sound are group added to form a synthesized harmonic of the synthesized sound (page 3, equation 3).

Claim 4: Kleczkowski teaches the method of claim 3, wherein said synthesized harmonic obtained by group addition are scaled up or down for generating other harmonics of said synthesized sound (page 3, equation 3, scaling parameter A_{ki}).

Claim 5: Kleczkowski teaches the method of claim 1, wherein said synthesized sound is synthesized from a plurality of characteristic harmonics (the terms of the sum in equation 2), a plurality of said characteristic harmonics having a substantially similar envelope (the term $E(n)$ in equation 2).

Claim 7: Kleczkowski teaches the method of claim 5, wherein at least one of said characteristic harmonics is synthesized from a plurality of harmonics of said samples of said sound (see inner summation in equation 3).

Claims 8, 11-13, & 15: Kleczkowski teaches that a plurality of the harmonics of the synthesized sound have substantially the same variation in the amplitude envelope (see Figs. 1 & 2; see also the term $E_k(n)$ in equation 3).

Claim 9: Kleczkowski teaches a sound according to claim 8, wherein the synthesized sound is reminiscent of the sound of a string instrument (see pages 6-8 & tables 1-4).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 6, 10, & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleczkowski.

Claim 2: Kleczkowski teaches the method of claim 1, but does not explicitly teach that said prescribed characteristics for selecting a harmonic include selecting a harmonic with more salient variation in amplitude over-time. However, given the method recited in Kleczkowski on page 3, col. 2, lines 9-19, it would have been obvious to one of ordinary skill in the art at the time the invention was made that selecting a harmonic with more salient variation in amplitude over time would be a suitable alternative to the method provided in Kleczkowski.

Claim 6: Kleczkowski teaches the method of claim 5, but does not explicitly teach that the number of said plurality of characteristic harmonics does not exceed four. However, limiting the partials groups limits the processing power needed for running the method disclosed in Kleczkowski, and as a result, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have limited the partials groups (see page 1). Limiting the number to four would have been an obvious design choice.


Claims 10 & 14: See rejection of claims 8, 11-13, & 15 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Millikin whose telephone number is 571-270-1265. The examiner can normally be reached on M-R 7:30-5 and 7:30-4 Alternating Fridays (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



LINCOLN DONOVAN
SUPERVISORY PATENT EXAMINER